

Features

- | Aerosol Generation | Particle Delivery | Laser Processing |
|---|---|--|
| <ul style="list-style-type: none"> • Small droplets ($\sim 1 \mu\text{m}$) • Dense aerosols ($\sim 10^{16} \text{ m}^{-3}$) | <ul style="list-style-type: none"> • Accuracy to $3 \mu\text{m}$ • Single particle to 10^9 particles/s • Throughput to $0.25 \text{ mm}^3/\text{s}$ | <ul style="list-style-type: none"> • Low power ($\sim 50 \text{ mW}$) • High scan rate ($\sim 1 \text{ m/s}$) • Dense, conductive materials ($\rho \sim 2 \times \text{bulk}$) |

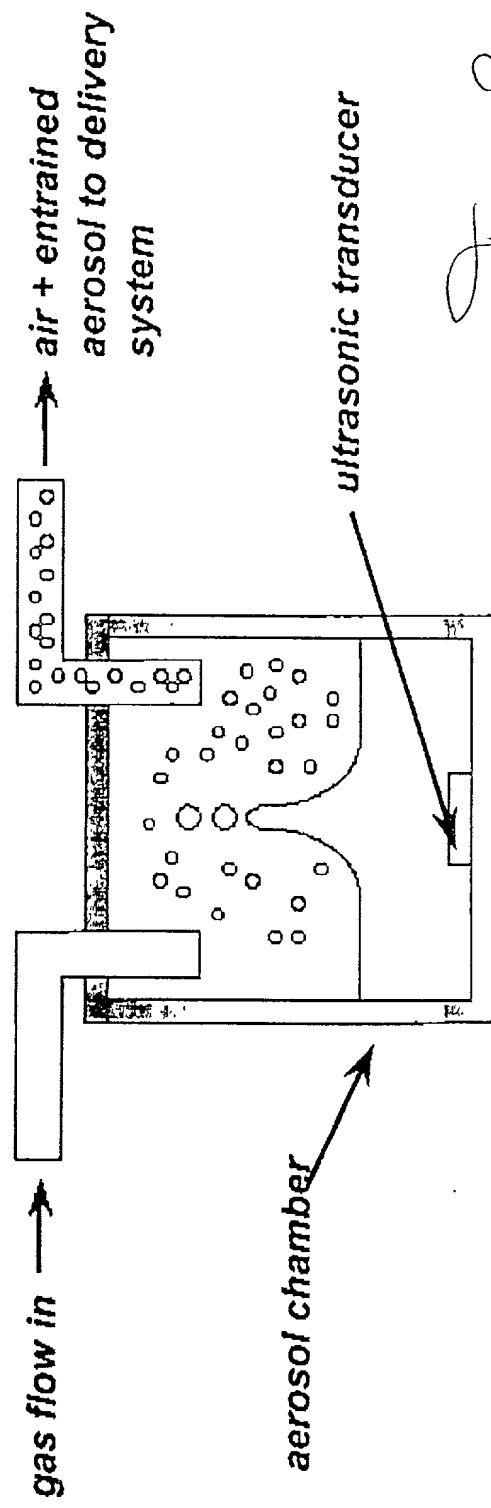


Fig. 3.

- Small droplets ($\sim 1 \mu\text{m}$, 1 fL)
- Dense aerosols ($\sim 10^{16} \text{ m}^{-3}$)
- 100 μL minimum sample
- All solids, all precursors, or solid/precursor mixtures
- Precursor based alloys with atomic scale mixing
- Organic and biological entities in droplets (enzymes, proteins, virus, etc.)

Fig. A.

Air Jet

• Large Particles (1-30 μm)
High Viscosity Fluids
particles + Precursor binder
animal Cells + Media
bacteria
virus

Compressed AirJet

Particulate in Suspension

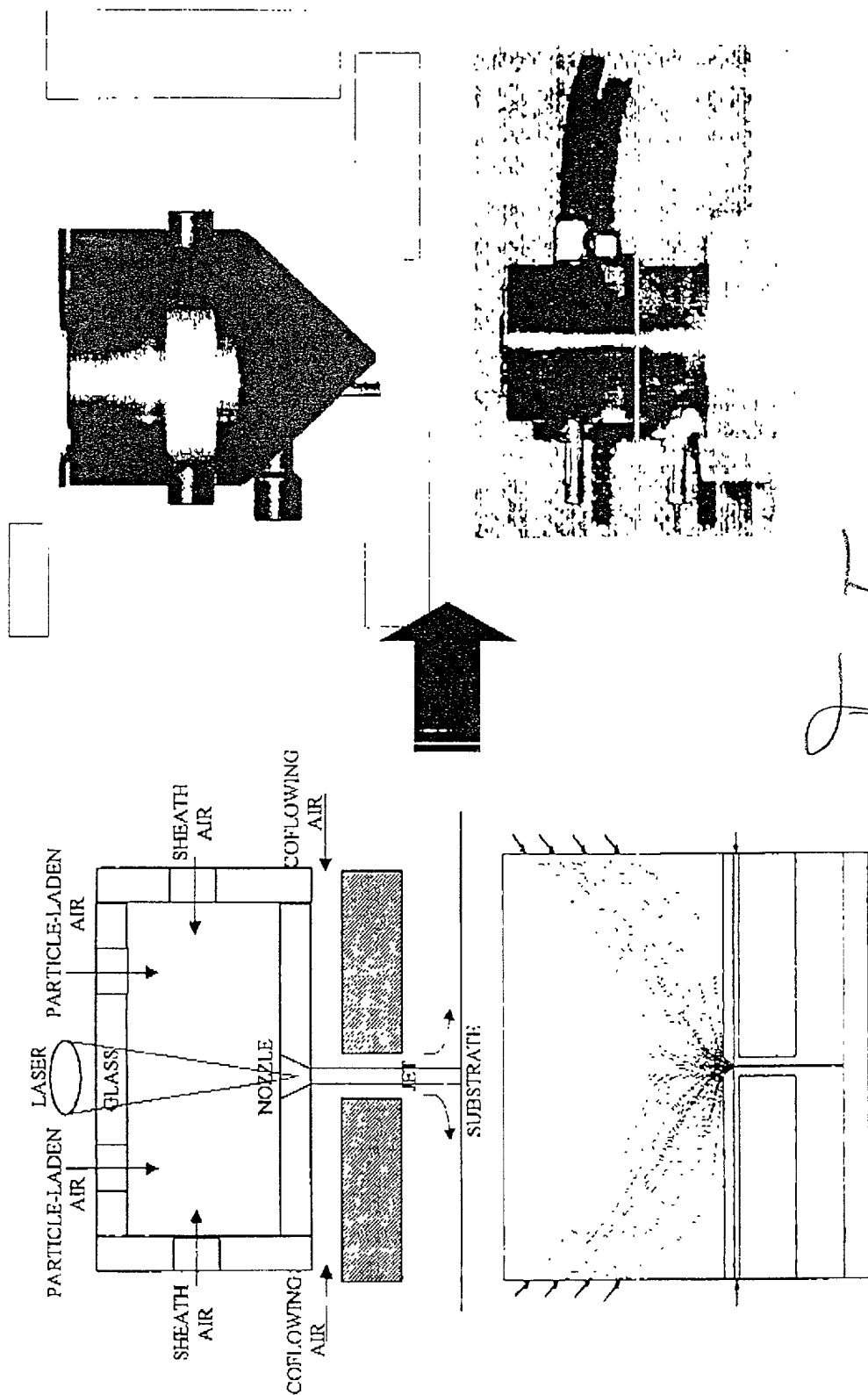


Fig. 5.

Cascade Impaction

Gas stream carrying
various size particles

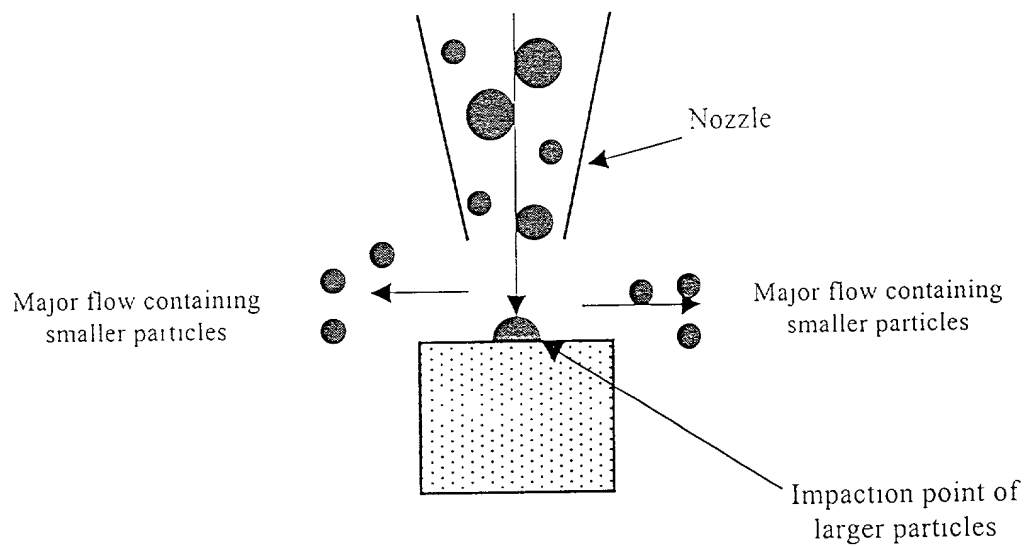


Fig. 6.

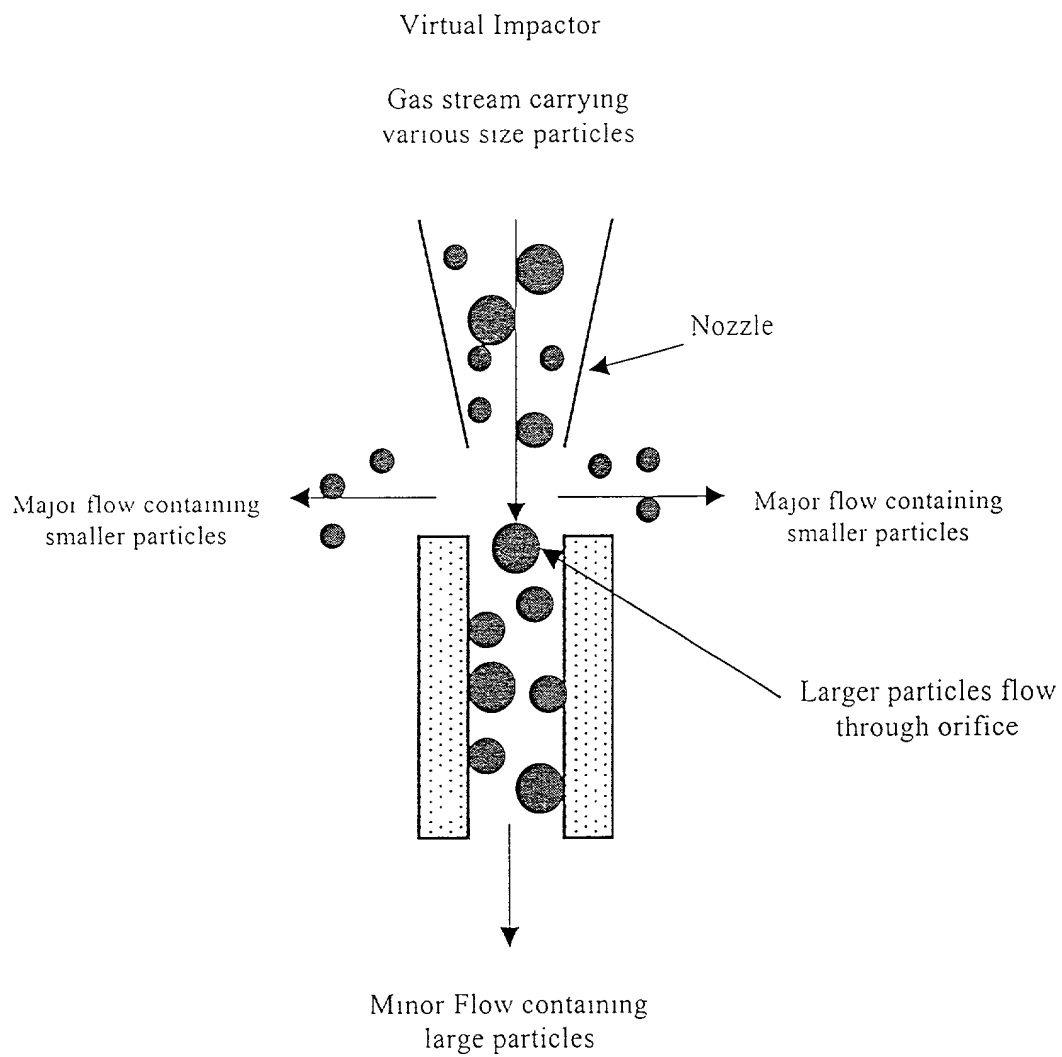


Fig. 7.

Particle Sorting at Atomization Unit
& Virtual Impactors in Series

Gas stream carrying only
large particles from the
atomizing unit

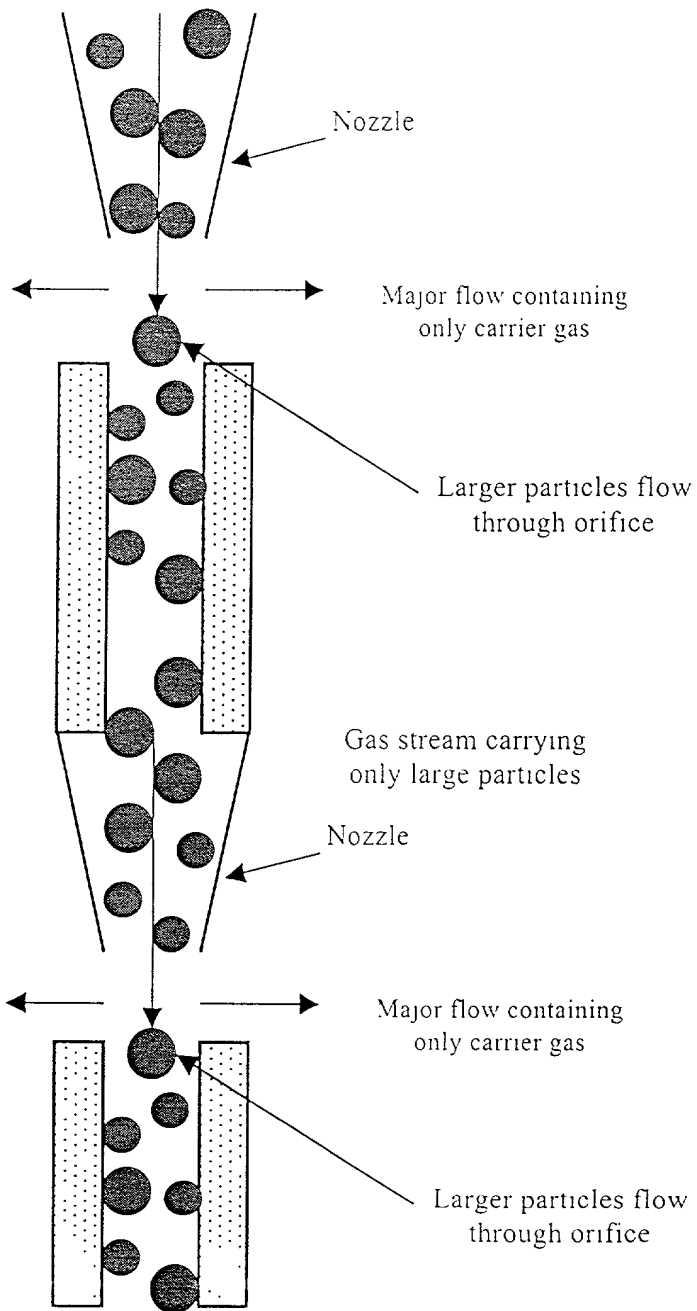


Fig. 9.

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